State of Oregon
Department of
Environmental
Quality

SOLID WASTE DISPOSAL SITE PERMIT: COMPOSTING FACILITY

Oregon Department of Environmental Quality
700 NE Multnomah St, Suite 600
Portland, OR 97232
Telephone (Information): 503-229-5353.
Email: DEQNWR.SolidWastePermitCoordinator@deq.state.or.us

Issued in accordance with the provisions of Oregon Revised Statutes (ORS) Chapter 459, Oregon Administrative Rules (OAR) 340 Divisions 93, 95, 96 and 97 and ORS Chapter 468B and subject to the land use compatibility statement referenced below.

ISSUED TO:	FACILITY NAME AND LOCATION:
Grimm's Fuel Company 18850 SW Cipole Road Tualatin, OR 97062	Grimm's Fuel Company Composting Facility 18850 SW Cipole Road Tualatin, OR 97062 T2S, R1W, S21; Tax Lots 1800-2100 Latitude: 45.3832; Longitude: -122.8145
PROPERTY OWNER:	**OPERATOR:**
Grimm Brothers, LLC 18850 SW Cipole Road Tualatin, OR 97062	Jeff Grimm Phone: 503-636-3623 Fax: 503-692-2015

ISSUED IN RESPONSE TO:

- DEQ initiated permit modification.
- A Land Use Compatibility Statement from the City of Tualatin dated February 12, 2010 and May 8, 2012.

The determination to issue this permit is based on findings and technical information included in the solid waste permit application and in the permit record.

ISSUED BY THE OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

Audrey M O'Brien

Audrey O'Brien
Solid Waste Manager, Northwest Region

May 1, 2019
Date

Permitted Activities

Until such time as this permit expires or is modified or revoked, the permittee is authorized to establish, operate, and maintain a solid waste disposal site for composting activities and to construct, install, modify or operate stormwater and process water treatment and/or control facilities in conformance with the requirements, limitations, and conditions set forth in this document, including all attachments.

Unless specifically authorized by this permit, by another National Pollutant Discharge Elimination System (NPDES) or Water Pollution Control Facilities (WPCF) permit, or by Oregon Administrative Rule, any other direct or indirect discharge to waters of the state is prohibited.

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Introduction. This document is a solid waste permit issued by the Oregon Department of Environmental Quality in accordance with Oregon Revised Statutes (ORS) 459, ORS 468B.050 and Oregon Administrative Rules (OAR), Chapter 340. This individual permit is issued to owners and operators of composting facilities handling greater than 100 tons per year of Types 1, or 2 feedstocks or greater than 20 tons of Type 3 feedstocks, or greater than 40 tons of Type 3 feedstocks when composting in containers designed to prohibit vector attraction and prevent nuisance and odor generation.

Rules relating specifically to composting facilities may be found in OAR Chapter 340, Divisions 93, 95, 96 and 97.

In this document. This document contains the following sections:

ALLOWABLE ACTIVITIES

1.0 AUTHORIZATIONS

1.1 Authorization to receive feedstocks. This permit authorizes the facility to accept the following feedstocks in conformance with the terms and conditions of this permit (Note: a detailed list of authorized feedstocks is listed in the DEQ-approved Operations Plan for this site.):

A. Types 1 and 2 feedstocks.

1.2 Authorization to receive other feedstocks or amendments. Feedstocks or amendments excluded from the above authorization may not be accepted unless DEQ has approved in writing an updated site Operations Plan which describes the new feedstocks or amendments. Acceptance of additional feedstocks may require public notice.

1.3 Authorization of other activities. All facility activities must be conducted in accordance with the provisions of this permit. All reports and plans required by this permit become part of the permit by reference once approved by DEQ. Any conditions of report and plan approvals are also incorporated into this permit unless contested by the permittee within 30 days of the receipt of a conditional approval.

1.4 Water quality activities. The permittee is allowed to construct, install, modify, operate and maintain a compost leachate and/or stormwater collection and/or treatment system provided these activities are done in accordance with plans and specifications approved in writing by DEQ. No activities are to be conducted that could adversely impact groundwater quality. If adverse impacts to groundwater are suspected from a facility covered by this permit, DEQ may require the permittee to perform a groundwater investigation.

2.0 PROHIBITIONS

2.1 Prohibited feedstocks or wastes. The permittee is prohibited from accepting materials for composting that are not specifically authorized by section 1.1 of this permit, unless the materials have been approved in accordance with the requirements of section 1.2 of this permit.

The permittee must not accept dead animals as a composting feedstock.

The permittee must not accept any wood that does not meet the definition of wood waste in OAR 340-093-0030. The permittee may accept only clean untreated and unpainted wood.

The permittee must not accept unsorted, mixed domestic solid waste as a feedstock or for disposal at the composting facility.

The permittee must not accept any materials that are listed in OAR 340-093-0040, as prohibited from disposal at solid waste disposal sites, including but not limited to hazardous waste as defined in ORS 466.005 and OAR 340, Division 101.

2.2 Discovery of prohibited wastes. In the event that the permittee discovers prohibited feedstocks or wastes at the composting facility, the permittee must, **within 48 hours** of discovery, notify DEQ and initiate procedures to isolate or remove the prohibited feedstocks or waste.

The permittee must transport non-putrescible, non-hazardous, prohibited waste to a disposal or recycling facility authorized to accept such waste **within 90 days** of discovery, unless otherwise approved or restricted in writing by DEQ.

The permittee must remove putrescible, non-hazardous, prohibited wastes **within 48 hours** of

discovery, unless otherwise approved or restricted in writing by DEQ.

In the event the permittee discovers wastes that are hazardous or suspected to be hazardous, the permittee must, **within 48 hours** of discovery, notify DEQ.

Hazardous wastes must be removed **within 90 days** of discovery, unless otherwise approved or restricted in writing by DEQ. Temporary storage and transportation must be carried out in accordance with DEQ rules.

2.3 **Open burning.** The permittee must not conduct any open burning at this site. Reference: OAR 340-264-0030 (defines open burning).

2.4 **Sewage sludge (biosolids).** The permittee must not accept any sewage sludge for composting at this facility. If the permittee wishes to accept sewage sludge, then the permittee must request a permit modification of this solid waste permit and obtain the applicable water quality permit, as required under ORS 468B and OAR 340-050.

OPERATIONS AND DESIGN

3.0 OPERATING CONDITIONS

3.1 **Performance Standards.** The permittee must operate the compost facility in conformance with the performance standards identified in OAR 340-096-0070:

1. All composting facilities must be designed, constructed, and operated in a manner that does not cause a discharge of leachate, liquid digestate, or stormwater from the facility to surface water, except when such discharge is in compliance with a discharge permit issued by DEQ.

2. All composting facilities that collect and dispose of leachate, liquid digestate, or stormwater in engineered structures must comply with the applicable requirements of OAR 340-096-0130: Special Rules Pertaining to Composting: Biogas, Liquid Digestate and Leachate Collection Design and Management Requirements.

3. All composting facilities must be designed, constructed, and operated in a manner that does not cause a likely adverse impact to groundwater under OAR 340 Division 40. All composting facilities proposing to use infiltration in soil as a method for managing leachate, liquid digestate, or stormwater must comply with OAR 340-096-0120: Groundwater Protection.

4. All composting facilities must be designed, constructed, and operated in a manner that, to the greatest extent practicable, consistent with proper facility design and operation, controls and minimizes odors that are likely to cause adverse impacts outside the boundaries of the facility.

5. All composting facilities must be designed, constructed, and operated in a manner that achieves human pathogen reduction as required by OAR 340-096-0140: Pathogen Reduction.

6. All composting facilities must be designed, constructed, and operated in a manner that controls or prevents propagation, harborage, or attraction of vectors, including but not limited to rats, birds, and flies.

7. All composting facilities that produce, collect or store biogas must be designed, constructed, and operated to meet state and local fire regulations to address the potential for fire and explosions.

8. All composting facilities that collect, store and manage liquid digestate must demonstrate adequate capacity to store or remove the digestate. For facilities that land-apply, storage must be provided for periods when the production of liquid digestate exceeds the capacity of the soil to use the digestate

at agronomic rates including during wet winter months.

9. All composting facilities must comply with all other applicable laws and regulations.

3.2 Pathogen reduction. The permittee must operate the compost facility in conformance with OAR **340-096-0140, Special Rules Pertaining to Composting: Pathogen Reduction,** including the following:

1. Process parameters:

   a) Using the static aerated pile composting method, the temperature of the active composting piles must be maintained at 131 degrees Fahrenheit or higher for three consecutive days.

   b) The permittee must monitor temperature daily at locations that are representative of the active piles.

   c) The permittee must maintain sample results and must make the results available upon request.

2. Analytical limits for composted material:

   a) Routine analysis must be performed for fecal coliform if Type 2 feedstocks are greater than 50% of incoming feedstocks. Analysis must be performed for either fecal coliform or salmonella if the incoming feedstocks contain less than 50% Type 2 feedstocks:

Parameter	Limitations
Fecal Coliform	Less than 1,000 Most Probable Number (MPN) per gram of total solids (dry weight).
Salmonella	Less than 3 Most Probable Number per 4 grams of total solids (dry weight).

   b) The permittee must maintain analysis results and must make the analysis results available to DEQ upon request.

3. Testing frequency for composted material to determine pathogen reduction success:

Amount and Type of Compost Produced Annually	Minimum Frequency	Type of Sample
Greater than 2,500 tons of composted material from Type 1 and 2 feedstock are produced per year.	Testing must be conducted every 5,000 tons of feedstock used or a maximum of once every three months.	Composite from finished compost
Greater than 2,500 tons of composted material from Type 3 feedstock are produced per year.	Testing must be conducted every 5,000 tons of feedstock used, or at least monthly.	Composite from finished compost

4.0 OPERATIONS PLAN

4.1 **Plan compliance.** The permittee must conduct all operations at the facility in accordance with the approved Operations Plan dated July 2017, including any amendments. The DEQ approved Operations Plan is incorporated into the permit by reference. Failure to implement any of the control measures, performance standards, or practices described in the Operations Plan is a violation of this permit.

Note: The operations plan must include the basic elements of an operations plan outlined in OAR 340-096-0090(5).

4.2 **Updated Operations Plan.** Within 60 days of permit issuance, the permittee must submit to DEQ an updated Operations Plan that includes facility infrastructure changes and process parameter monitoring described in section 9 of the permit.

4.3 **Odor Minimization Plan.** As part of the updated Operations Plan required in section 4.2, the permittee must prepare a revised Odor Minimization Plan that identifies how the permittee will modify operations to control and minimize adverse impacts of odors outside the boundaries of the facility. The Odor Minimization Plan must include:

A. A management plan for how malodorous feedstocks will be accepted, ground and incorporated into the composting piles as soon as practicable within the same day received;

B. Procedures for receiving and recording odor complaints, immediately investigating any odor complaints to determine the cause of odor emissions, and promptly remedying any odor at the facility resulting from failure to meet performance standards under OAR 340-096-0070(4);

C. Procedures to avoid anaerobic conditions in the composting process.

D. Blending and mixing feedstocks for favorable carbon to nitrogen ratio and composting conditions;

E. Forming windrows or other composting piles into a size and shape favorable to minimizing odors;

F. Specification of a readily available supply of bulking agents, additives or odor control agents;

G. Quickly processing and managing feedstocks during weather conditions such as inversions that increase the likelihood of offsite odor impacts;

H. Methods for taking into consideration the following factors prior to turning or moving composting material:

i. Time of day;
ii. Wind direction;
iii. Percent moisture;
iv. Estimated odor potential; and
v. Degree of maturity.

Reference: OAR 340-096-0150(5),

4.4 **Odor Minimization Plan implementation.** The permittee must implement the Odor Minimization Plan upon DEQ approval.

4.5 **Updated Odor Minimization Plan.** The permittee must review and update the Odor Minimization Plan as needed to reflect changing conditions, or upon DEQ request. The updated plan must be submitted to DEQ for review and approval.

4.6 Operations Plan maintenance. The permittee must revise the Operations Plan as necessary to keep it up to date and reflective of current facility conditions and procedures.

The permittee must submit revisions of the Operations Plan to DEQ for review and written approval prior to commencing any change in operations including changes made to comply with permit conditions 9.17, 9.18, and 9.20 of this permit.

4.7 Submittal address. All submittals to the DEQ under this section must be sent to:

Oregon Department of Environmental Quality
Manager, Materials Management and Solid Waste Program
700 NE Multnomah St, Suite 600
Portland, OR 97232

Or email to: DEQNWR.SolidWastePermitCoordinator@deq.state.or.us

Phone: (503) 229-5353

5.0 RECORDKEEPING, REPORTING AND FEE PAYMENT

5.1 Non-compliance reporting. In the event that any condition of this permit or DEQ rules are violated, the permittee must immediately take action to correct the violation and notify DEQ **within 24 hours** at email: DEQNWR.SolidWastePermitCoordinator@deq.state.or.us or call DEQ's Northwest Region Solid Waste Permit Coordinator at (503) 229-5353.

Response: In response to a notification, DEQ may conduct an investigation to evaluate the nature and extent of the problem, and may require additional corrective actions, as necessary.

5.2 Leachate releases. Within 24 hours of discovery, the permittee must report to DEQ, all unauthorized leachate releases to waters of the state.

5.3 Access to records. Upon request, the permittee must make all records and reports related to the permitted facility available to DEQ.

5.4 Oil and hazardous material spill response and reporting

The permittee must immediately clean up any spill of oil or hazardous material as described in the Operations Plan. If the spill is of a reportable quantity the permittee must immediately report the spill to the Oregon Emergency Response System at 1-800-452-0311 and DEQ.

Reportable quantities include:

- *Any* amount of oil spilled to waters of the state;
- Oil spills on land in excess of 42 gallons;
- 200 pounds (25 gallons) of pesticide residue;
- Hazardous materials that are equal to, or greater than, the quantity listed in the 40 CFR Part 302 (List of Hazardous Substances and Reportable Quantities), and amendments adopted before July 1, 2002. For a complete list of hazardous materials required to be reported, please refer to OAR 340-142-0050.

5.5 Record-keeping procedures. The permittee must keep records and submit reports according to OAR 340-096-0090(5)(i) and the following table:

Step	Action
1	Establish a location for document retention at the facility, or at another location mutually agreed to with DEQ.
2	Collect information during facility operations on the amount of each type of feedstock received, recording "0" if none is received. • At a minimum, the following types of feedstocks must be: 1) separately identified; and 2) categorized as originating from either in or out-of-state: • Type 1, 2 and 3 feedstocks or amendments; o Leaves o Yard debris – compacted and uncompacted o Vegetative food waste and non-vegetative food waste o Agricultural crop residue o Wood chips – dry o Wood chips – green o Clean wood waste o Sawdust, wet o Sawdust, dry o Manure o Bedding • Other authorized feedstocks or amendments. Submit the information on the **Composting Facility Report** form provided by DEQ. **Date Due: January 31 of each year for the previous calendar year**. Pay the Annual Permit Compliance Fee required by OAR 340-097. Invoice will be sent out by DEQ. **Date Due: July 31 of each year.**
3	Permittees accepting non-agricultural, post-consumer recyclable materials generated in Oregon must complete a **Material Recovery Survey** on a form provided by DEQ. Information necessary to complete this survey includes: amounts and types of recyclable materials; county of origin of the material; and, names of companies providing the material(s). The survey also asks for information about what was done with the recyclable material, such as: made compost; shipped wood waste for hogged fuel; etc. The permittee must submit this survey to the local Wasteshed Representative. The survey is then forwarded by that person to DEQ. **Date Due: January 31 of each year for the previous calendar year**.
4	Keep a log of processing parameter data required in Permit.
5	Permittee must submit to DEQ Northwest region solid waste staff a copy of their 1200-Z NPDES stormwater permit sampling results by July 31 of each year. DEQ will review this information to determine if the facility's best management practices are effective for the protection of groundwater and surface water.
6	Retain copies of all records and reports for five years from the date created.
7	Update all records such that they reflect current conditions at the composting facility.

5.6 **Submittal address.** Submittals for step 2 (Composting Facility Report and the Annual Permit Compliance Fee) above must be sent to DEQ at:

Oregon Department of Environmental Quality
Materials Management Section
Environmental Solutions Division
700 NE Multnomah Street, Suite 600
Portland, OR 97232

Submittals for step 3 (Material Recovery Survey) must be sent to the local Wasteshed Representative.

Submittals for step 5 (Stormwater sampling results) must be sent to:

Oregon Department of Environmental Quality
Manager, Materials Management and Solid Waste Program
700 NE Multnomah St, Suite 600
Portland, OR 97232

Or email to: DEQNWR.SolidWastePermitCoordinator@deq.state.or.us

Phone: (503) 229-5353

6.0 ENGINEERED STRUCTURE DESIGN AND MANAGEMENT

6.1 **Facility Design and Construction Plan.** Composting facilities that collect leachate or stormwater in engineered structures must comply with the requirements of OAR 340-096-0130 *Special Rules Pertaining to Composting: Leachate Collection Design and Management Requirements*. Structures subject to this Rule include, but are not limited to:

- Leachate collection and storage facilities;
- Stormwater collection and storage facilities;
- Constructed surfaces designed to protect groundwater

The permittee must contact DEQ prior to any site modification affecting these structures. DEQ may require the permittee to prepare and submit a modified Facility Design and Construction Plan, stamped by a registered professional engineer. The permittee must receive written approval of the modified Facility Design and Construction Plan from DEQ **prior to commencing construction**.

6.2 **Construction requirements.** The permittee must perform all construction in accordance with the approved plans and specifications, including all conditions of approval. Any amendments to those plans and specifications must be approved in writing by DEQ.

6.3 **Construction documents.** Prior to initiating construction, the permittee must submit and receive written DEQ approval of complete construction documents for the project to be constructed. The construction documents submitted must:

- Define the construction project team;
- Include construction contract documents specifying material and workmanship, and requirements to guide how the constructor is to furnish products and execute work; and
- Include a Construction Quality Assurance (CQA) plan describing the measures that will be taken to monitor and ensure that the quality of materials and the work performed by the constructor complies with project specifications and contract requirements.

6.4 **Construction report submittal. Within 90 days** of completing construction, the permittee must submit to DEQ a Construction Certification Report, prepared by a qualified independent party, to document and certify that all required components and structures have been constructed in compliance with the permit

requirements and DEQ approved design specifications. This submittal must include "as constructed" facility plans which note any changes from the original approved plans.

6.5 **Approval to use.** The permittee must not accept feedstocks for storage, processing or composting in newly constructed facilities or areas until DEQ has accepted the Construction Certification Report. If DEQ does not respond in writing to the Construction Certification Report within 30 days of its receipt, the permittee may accept feedstock at the facility in the newly constructed facilities or areas.

6.6 **Submittal address.** All submittals to DEQ under this section must be sent to:

Oregon Department of Environmental Quality
Manager, Northwest Region Environmental Partnerships Section
700 NE Multnomah St, Suite 600
Portland, OR 97232

Or email to: DEQNWR.SolidWastePermitCoordinator@deq.state.or.us

Phone: (503) 229-5353

COMPOSTING FACILITY GENERAL CONDITIONS

7.0 ADMINISTRATION

7.1 **Definitions.** Unless otherwise specified, all terms are as defined in OAR 340-093-0030.

7.2 **Property rights.** The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights.

7.3 **DEQ liability.** DEQ, its officers, agents, or employees do not sustain any liability on account of the issuance of this permit or on account of the construction, maintenance, or operation of facilities pursuant to this permit.

7.4 **Permit term.** The effective date of this permit is the date this document is signed by DEQ. The expiration date of the permit is indicated at the top right of this document. The authorization to accept solid waste at the facility will end when this permit expires, is terminated, or revoked; after that time the permittee cannot accept solid waste at the facility.

7.5 **Permit renewal.** The permittee must submit an application for permit renewal if the permittee intends to continue operation beyond the expiration date of this permit. A complete solid waste disposal site permit renewal application must be submitted to DEQ **at least 180 days** before the existing permit expires. All permit conditions will remain in effect until such time as a new permit is issued by DEQ. Failure by a permittee to abide by the terms of any permit conditions will be a violation.

7.6 **Permittee initiated termination of permit.** After facility closure, the permittee must request, in writing, to DEQ that the permit be terminated. Permittee must demonstrate to DEQ that the facility no longer requires a permit under OAR 340-093-0050 before DEQ will terminate the permit.

7.7 **Documents superseded.** This document is the primary composting permit for the facility, superseding all other solid waste permits issued for this facility by DEQ.

7.8 **Permittee responsibility and liability.** Conditions of this permit are binding upon the permittee. The permittee must conduct all facility activities in compliance with the provisions of this permit. The permittee is liable for all acts and omissions of the permittee's contractors and agents in carrying out the operations and other responsibilities pursuant to this permit.

7.9 **Access to disposal site.** The permittee must allow representatives of DEQ access to the facility at all reasonable times for the purpose of performing inspections, surveys, collecting samples, obtaining data and carrying out other necessary functions related to this permit.

7.10 **Other compliance.** Issuance of this permit does not relieve the permittee from the responsibility to comply with any applicable federal, state, or local laws or regulations.

7.11 **Penalties.** Violation of any condition of this permit or any incorporated plan may subject the permittee to civil penalties up to $25,000 for each day of each violation (ORS 468.140).

8.0 PERMIT MODIFICATION

8.1 **Mid-term review.** At the mid-point of the life of the permit, DEQ may review the permit and determine whether or not the permit should be amended. While not an exclusive list, the following factors will be used in making that determination:

- Compliance history of the facility;
- Changes in volume and/or composition of feedstock(s);
- Changes in operations at the facility;
- Changes in state or federal rules which should be incorporated into the permit;
- Release of leachate to the environment from the facility; or
- Significant changes to the DEQ-approved Design Plan or Operations Plan.

8.2 **Modification.** At any time in the life of the permit, DEQ or the permittee may propose changes to the permit.

8.3 **Modification and revocation by DEQ.** The director of DEQ may, at any time before the expiration date, modify, suspend, or revoke this permit in whole or in part in accordance with Oregon Revised Statute 459.255 for reasons including, but not limited to, the following:

- Violation of any terms or conditions of this permit or any applicable statute, rule, standard or order of the Environmental Quality Commission;
- Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
- A significant change in the quantity or character of feedstocks received;
- Non-compliant operation of the composting site; or
- A significant change in the composting process.

8.4 **Modification by permittee.** The permittee must apply for a modification to this permit if a significant change in facility operations is planned or there is a deviation from activities described in this document. The permittee must not implement any change in operations that requires a permit modification prior to receiving approval from DEQ.

8.5 **Public participation.** Significant changes to the permit will be made public by the issuance of a public notice as required by DEQ rules.

8.6 **Changes in ownership or address.** The permittee must report to DEQ in writing any changes in either ownership of the composting site property or of the name and address of the permittee or operator within ten (10) days of the change.

9.0 SITE OPERATIONS

9.1 **Containers.** The permittee must clean all containers on-site, as needed to maintain a sanitary operating environment, and to prevent malodors, unsightliness, and attraction of vectors including insects.

9.2 **Vehicles.** All composting vehicles and devices operated by the permittee, and using public roads, must be constructed, maintained, and operated so as to prevent leaking, shifting, or spilling of feedstocks and finished compost while in transit.

9.3 **Litter control.** Litter that results from the composting facility operation must be controlled such that the entire composting facility and adjacent lands are maintained virtually free of litter at all times. Any debris from the facility must be retrieved and properly disposed of as soon as possible during the same operational day.

9.4 **Air quality.** Dust and malodors must be controlled in accordance with the DEQ rules on air pollution.

According to OAR 340-208-0450 no person may cause or permit the emission of particulate matter larger than 250 microns in size at sufficient duration or quantity as to create an observable deposition upon the real property of another person when notified by DEQ that the deposition exists and must be controlled.

9.5 **Drainage.** The permittee must divert surface drainage around or away from feedstock handling and grinding areas and active composting areas. The permittee must maintain surface water diversion ditches or structures in a serviceable condition and free of obstructions and debris at all times. Any significant damage must be reported to DEQ and repairs made as soon as possible.

9.6 **Leachate prevention/ management.** The permittee must operate the facility in a manner that deters leachate production to the maximum extent practicable. Leachate must be collected, removed and managed in a manner approved by DEQ.

9.7 **Oil & Hazardous Material Spill Response.** Any spill of oil or hazardous material must be cleaned up immediately as described in the facility Operations Plan. In addition to notifying the appropriate DEQ office, if the spill is of a reportable quantity the permittee must immediately report the spill to the Oregon Emergency Response System (OERS), at 1-800-452-0311.

Reportable quantities include:

- *Any* amount of oil spilled to waters of the state;
- Oil spills on land in excess of 42 gallons;
- 200 pounds (25 gallons) of pesticide residue; or
- Hazardous materials that are equal to, or greater than, the quantity listed in the Code of Federal Regulations, 40 CFR Part 302 (List of Hazardous Substances and Reportable Quantities), and amendments adopted before July 1, 2002. For a complete list of hazardous materials required to be reported, please refer to OAR 340-142-0050.

9.8 **Public unloading area.** The area(s) used by the public for unloading of feedstocks must be clearly defined by signs, fences, barriers, or other devices.

9.9 **Public Access.** Public access to the facility must be controlled, as necessary, to prevent unauthorized entry and dumping.

9.10 **Legal control of property.** The permittee must maintain legal control of the composting site property, including maintaining a current permit, contract or agreement that allows the operation of the facility if the site is not owned by the permittee.

9.11 **Fire protection.** Arrangements must be made with the local fire control agency to immediately acquire

their services when needed and adequate on-site fire control protection, as determined through the local fire control agency, must be provided. Fires must be immediately extinguished and reported to DEQ within 24 hours.

9.12 **Signs.** The permittee must post signs at the facility which are clearly visible and legible, providing the following information: Name of composting facility, emergency telephone number, days and hours of operation, authorized and prohibited wastes, solid waste permit number, and operator's address.

9.13 **Vector Control.** The permittee must provide rodent and insect control measures, as necessary, to prevent propagation, harborage or attraction of vectors including rodents, insects and birds.

9.14 **Truck Covers.** The permittee must notify all incoming feedstock haulers that trucks must be covered or suitably cross-tied to prevent any load loss during transport, in conformance with OAR 340-093-0220.

9.15 **Complaints.** The permittee must attempt to resolve all complaints it receives regarding facility operations by doing the following:

- Contact the complainant within 24 hours to discuss the problem;
- Keep a record of the complaint, name and phone number of the complainant (when possible), date complaint was received and date and description of facility response; and
- Immediately initiate procedures at the facility, when possible, to resolve the problem identified by the complainant.

For odor, litter or dust complaints, the permittee must report to DEQ as soon as complaints are received at the facility from five (5) different businesses and/or individuals about a given event or if an odor event lasts longer than 24 hours without resolution or mitigation.

9.16 **Permit display.** The permittee must display this permit, or a copy thereof, where operating personnel can readily refer to it.

9.17 **Material pile height reduction.** The permittee must reduce and maintain all piles of yard debris feedstock, active compost, hog fuel and finished compost to a maximum height of 40 feet by December 31, 2018 and to a maximum height of 25 feet by April 30, 2019. The facility must submit a plan for DEQ approval to achieve a maximum pile height of 14 feet for active compost piles within 60 days of permit issuance. Once the plan is approved by DEQ, the permittee must reduce and maintain a pile height of 14 feet or less for active compost piles by June 30, 2020. The permittee is additionally required to meet all other applicable Oregon Fire Code requirements.

9.18 **Cover for active compost piles.** Within 60 days of permit issuance, the permittee must apply a cover, such as porous overs and composted material, on all active compost piles for at least the first 15 days of composting. The permittee must describe in its operation plan how it will adequately maintain the cover. During the transition from static pile to ASP, the permittee will top all active compost piles with bio-cover.

9.19 **Capture and treatment of odors form screening and transfer process.** The permittee must maintain an enclosure of the screening and conveyance system to capture the odors from the processing equipment. Captured air will be directed to a properly sized bio-filter with an irrigation system that is maintained to provide optimum filtering capability.

9.20 **Aerated system.** The permittee must build and operate a continuous aeration system that provides adequate aeration to maintain a minimum oxygen level of **10%** in the active compost pile by June 30, 2020. Exhaust from the aerated system will be directed through a bio-filter or bio-cover system to ensure that, to the greatest extent possible, odors that are likely to cause adverse impacts outside of the facility boundaries are minimized.

9.21 **Process Controls.** Monitor and record the following processing parameters referenced in OAR 340-096-0090(6) at the frequency and location described below. Permittee must ensure that parameters are

within the range listed herein.

1) Prior to conversion to ASP system on June 30, 2020, the permittee must ensure that parameters are within the range listed herein:
   a) Oxygen level: Monitor at locations that are representative of the active piles weekly. Oxygen level within the active pile must be between 5% - 21% to ensure aerobic decomposition of feedstocks is occurring. Record of oxygen levels within the active piles shall be kept onsite and available to DEQ upon request.
   b) Temperature: Monitor at locations that are representative of the active piles weekly. Temperature within the active piles must maintain a temperature range between 120 F to 180 F. Record of temperature within the active pile shall be kept onsite and available to DEQ upon request.
   c) Moisture content: Monitor at locations that are representative of the active piles weekly. Moisture content within the active piles must be between 40% - 60% to ensure aerobic decomposition of feedstocks is occurring. Record of moisture content within the active piles shall be kept onsite and available to DEQ upon request.
   d) Retention time: Record active composting time for each compost batch. Record of compost times shall be kept onsite and available to DEQ upon request.

2) After conversion to ASP system on June 30, 2020, the permittee must ensure that parameters are within the range listed herein:
   a) Oxygen level: Monitor at locations that are representative of the active piles daily. Oxygen level within the active pile must be between 10% - 21% to ensure aerobic decomposition of feedstocks is occurring. Record of oxygen levels within the active piles shall be kept onsite and available to DEQ upon request.
   b) Temperature: Monitor at locations that are representative of the active piles daily. Temperature within the active piles must maintain a minimum temperature of 131 F for three days to achieve adequate human pathogen reduction. Record of temperature within the active pile shall be kept onsite and available to DEQ upon request.
   c) Moisture content: For each batch of material, monitor at locations that are representative of the active pile 4 times during the active composting phase. Permittee to take a moisture content measurement during the construction of the ASP (Day 1 and Day 15) and again during the deconstruction or flipping of the pile (Day 15 and Day 30).
   d) Retention time: Record active composting time for each compost batch. Record of compost times shall be kept onsite and available to DEQ upon request.

COMPLIANCE SCHEDULE

10.0 SUMMARY OF DUE DATES

10.1 Summary. The following is a summary of event-driven reporting required by this permit. This section does not include routine reporting and submittals required by this permit.

DUE DATE	ACTIVITY	SECTION IN THIS PERMIT
Prior to accepting any new waste type.	Submit an updated operations plan and obtain DEQ written approval.	Permit section 1.2
60 days after issuance of the permit.	Submit an updated Operations Plan and Odor Minimization Plan	Permit section 4.2
Six months prior to initiating any new construction for leachate or stormwater collection systems or groundwater protective surfaces.	Submit design and construction plans and receive written DEQ approval of plans.	Permit section 6.1
Prior to initiating construction.	Submit construction documents, including a Construction Quality Assurance Plan and receive written DEQ approval.	Permit section 6.3
Within 90 days after completion of any major construction and prior to accepting feedstock in new construction.	Submit Construction Certification Report for acceptance. Receive written DEQ approval of Report.	Permit section 6.4
One year prior to closure.	Notify DEQ in writing.	
By July 31 of each year.	Submit 1200-Z NPDES stormwater permit sampling results.	Permit section 5.5
April 30, 2019	Reduce and maintain all piles of yard debris feedstock, active compost, hog fuel and finished compost to a maximum height of 25 feet.	Permit section 9.17
60 days after issuance of the permit	Submit a plan for DEQ approval to achieve a maximum pile height of 14 feet	Permit section 9.17
June 30, 2020	Reduce and maintain all active compost piles to a maximum height of 14 feet	Permit section 9.17
60 days after issuance of the permit	Apply and maintain a cover of active compost piles	Permit section 9.18
June 30, 2020	Build and operate a continuous aeration system that provides adequate aeration to maintain a minimum oxygen level of **10%** in the active compost pile	Permit section 9.20

11.0 WHEN TO NOTIFY DEQ STAFF

Note: Contact DEQ staff at phone number listed in section 5.1, "Non-compliance reporting."

TOPIC	NOTIFICATION REQUIREMENTS	SECTION IN THIS PERMIT
Facility not able to meet requirements of this permit.	Contact DEQ for assessment.	All
Prohibited or hazardous waste discovered at facility.	Notify DEQ within 48 hours.	2.2
Conditions of permit violated.	Notify DEQ within 24 hours.	5.1
Leachate released from facility.	Notify DEQ within 24 hours.	5.2
Change in ownership of facility.	Notify DEQ in writing within 10 days.	8.6
Change in name or address of facility, name or address of permittee or name or address of operator.	Notify DEQ in writing within 10 days.	8.6
Odor complaints.	Notify DEQ after 5 complaints are received for same odor event or if odor persists unresolved after 24 hours.	9.15
Litter or dust complaints.	Notify DEQ after 5 complaints are received for an event.	9.15

Permit Evaluation

Oregon Department of Environmental Quality
Northwest Region Office
700 NE Multnomah St, Suite 600
Portland, OR 97232

Jan. 22, 2019
Updated Apr. 29, 2019

To: Audrey O'Brien, Manager
Materials Management Program
DEQ NWR

From: Jeremy Fleming, Permit Manager
Materials Management Program
DEQ NWR

Subject: Permit Evaluation Report
Proposed Solid Waste Composting Permit #1433
Grimm's Fuel Company

Introduction:

Grimm's Fuel Company (Grimm's) owns and operates an existing compost facility which produces finished compost, landscape supplies and soil amendments. Grimm's composting facility is located at 18850 SW Cipole Road, Tualatin, Oregon. The facility received approximately 66,000 tons of incoming feedstock in 2017.

On May 1, 2014 DEQ issued Solid Waste Disposal Permit No. 1433. Grimm's appealed the permit as issued and requested a hearing. As a result of the appeal, the previous permit remained temporarily in effect. DEQ revised the permit and initiated a public comment period on June 2, 2015. DEQ issued the current permit on Nov. 20, 2015.

In 2017, Metro issued a request for proposal to perform a facility composting assessment for Grimm's and to provide alternatives/options to mitigate offsite odor conditions in surrounding neighborhoods. Green Mountain Technologies (GMT) was selected and performed on-site assessments in Jan. and Feb. 2018. GMT conducted multiple regulator and community interviews, took air measurements to evaluate odor potential, performed air dispersion modeling of odor events, evaluated alternative composting designs, described additional best management

practices to be applied at Grimm's and compiled a list of regulatory recommendations related to aerobic composting and monitoring.

On Feb. 5, 2018 during a strong weather inversion, Grimm's began turning the compost pile. This turning process lasted several days, producing a large odor event with odors being detected up to 3 miles from the facility. DEQ received over 70 complaints through its formal complaint system during the month of Feb. 2018.

Partially in response to the large number of odor complaints received during the turning event, DEQ performed an environmental compliance inspection on Feb. 23, 2018. Several areas of concern were identified during the inspection, which were referred to the DEQ Office of Compliance and Enforcement and resulted in DEQ issuing a Notice of Civil Penalty Assessment and Order (Notice) on July 12, 2018. The Notice cited the following violations: 1) failing to collect leachate in a containment structure that has adequate capacity to collect and contain the leachate; 2) failing to conduct monitoring of the three active compost cells in compliance with the schedule prescribed in the facility's Operation Plan; 3) failure to report open burning to DEQ within 24 hours; 4) allowing the compost pile to exceed Oregon Fire Code height limit of 25 feet; and 5) turning the compost piles during the Feb. 2018 weather inversion.

Land Use Approval:

On file is a signed land use compatibility statement from the City of Tualatin Planning Department dated Feb. 12, 2010, indicating that the composting activity or use is compatible with the Land Conservation and Development Commission-acknowledged comprehensive plan or complies with the statewide planning goals.

Compost Operation Description:

Yard debris, horse manure, wood chips, rock, soils and concrete are accepted from a variety of retail and commercial sources including homeowners, landscape contractors and commercial haulers.

Each incoming load is visually inspected for prohibited items as it enters the facility at a scale house. Acceptable loads are directed to the concrete tipping area which is monitored by spotters on the pad as well as loader and plant operators working in the area. Once yard debris has been placed on the tipping floor, it is roughly ground and conveyed to the primary composting pile. The material remains in the pile for 180 to 270 days, during which the pile is turned and mixed three or four times. Oxygen is re-introduced into the static pile during these turning events, but the pile is otherwise not aerated, resulting in generally anaerobic conditions in the pile.

When primary composting is complete, the material is screened. Any physical contaminates, such as plastics, are removed via a series of vacuum separators and disposed of as solid waste. Organic material too large to pass through the 5/8" screen is re-mixed with incoming feedstocks and goes through the process once again.

Fine compost is then placed in the finished goods storage area for final curing. After curing, finished compost is periodically hauled to storage piles located on the lower lot and sold to the public for landscape products such as garden mulch, blended soil and soil amendments.

Environmental and Public Health Concerns:

Odor – Odor is the experience in the nose and brain of a recipient of an odorant at a concentration above their ability to detect it. Malodor is used to describe an odor that a recipient finds offensive. Odors can be fairly completely described using two concepts, intensity and character. Intensity is the strength of the odor, which is related to the concentration of odorant molecules in the air. The character of an odor is a description of an odor based on what the smell resembles such as "sweet" or "earthy".

The biological degradation process that reduces organic matter (yard debris) to the earth-like material called hummus can occur in the presence of oxygen (aerobic composting) or in the absence of oxygen (anaerobic composting). These two processes incorporate different microorganisms and produce different by-product compounds and odors. If aerobic conditions are not maintained, anaerobic conditions will take place, and malodors will be generated. Malodorous compounds produced at a greater intensity during anaerobic composting include reduced sulfur compounds, volatile fatty acids, aromatic compounds and amines.

Aerobic compost organisms can survive in as little as 5 percent oxygen. However, if the oxygen level falls below 10 percent, parts of the compost pile can become anaerobic. GMT took compost pile air measurements as part of their facility assessment. They reported that conditions just 2 feet below the surface of the pile were predominantly anaerobic. Oxygen levels below the surface never exceeded 10% and commonly were found to be 0%. Monthly oxygen monitoring performed by Grimm's reported O2 levels mostly in the 2%–7 % range.

OAR 340-096-0070(4) is a performance standard pertaining to compost facilities that states: "All compost facilities must be designed, constructed and operated in a manner that, to the greatest extent practicable, consistent with proper facility design and operation, controls and minimizes odors that are likely to cause adverse impacts outside the boundaries of the facility."

Based on the Metro funded GMT report and DEQ's observations at Grimm's in Feb. 2018, Grimm's current procedures to avoid anaerobic conditions are not adequate to minimize odors that are likely to cause impacts beyond its boundaries. DEQ agrees with the GMT report that significant operational processes and infrastructure construction must be undertaken at Grimm's to significantly increase the amount of oxygen in the active compost pile.

Fire – Excessive temperatures in compost can cause spontaneous combustion. Adequate aeration and moisture levels are the best preventative measures to avoid compost pile fires. Non-aerated static compost piles higher than 25 feet are doubly at risk due to the combustible conditions at the middle of the pile and the large volume of fuel.

From Jan. 2016 through Aug. 2017, Tualatin Valley Fire and Rescue (TVFR) responded to fires in the composting cell at Grimm's seven times.

TVFR informed Grimm's on May 2, 2018 that the facility must meet Oregon Fire Code Section 2808 and reduce the height of the active compost piles to not exceed 25 feet by April 40, 2018. In addition, OAR 340-093-0070 (9) requires "All composting facilities must comply with all other applicable laws and regulations." Grimm's is not in compliance with the Oregon Fire Code so is not in compliance with DEQ's compost rules.

Compliance History:

Grimm's has received one Notice of Civil Penalty Assessment and Order (Notice) on July 12, 2018. The facility has not received any previous enforcement actions from DEQ.

Proposed Permit Modifications:

The Solid Waste Composting Facility Permit for Grimm's covers a ten year period from the date of permit issuance. DEQ has not modified the permit expiration date with this permit modification. The permit requires that the permittee meet performance standards as stated in Oregon Administrative Rules 340-096-0070.

Sections 1 and 2 of the permit discuss allowable activities (authorizations and prohibitions); Sections 3-6 discuss operations and design (operating conditions, operations plan, record keeping and reporting, engineered design structure management); Sections 7-9 discuss general conditions (administration, permit modification requirements, site operations); and Sections 10 and 11 discuss compliance conditions (summary of due dates and when to notify DEQ).

DEQ proposes to revise Section 1.2 to remove the conditional authorization to receive food waste. Grimm's current permit allows for receipt of Type 3 feedstock that is curbside collected residential food waste mixed with yard debris. This is contingent upon completion of a food waste demonstration project and subsequent review and approval by DEQ, and approval from Metro to accept Type 3 feedstocks. Metro's license does not authorize Grimm's to accept food waste, therefore, DEQ considers a demonstration project premature and will require Grimm's to submit a permit modification to accept food waste after installation of the ASP system and evidence that the facility can meet performance standards.

1.2 Authorization to receive Feedstocks. This permit authorizes the facility to accept the following feedstocks (Note: a detailed list of authorized feedstocks is listed in the DEQ-approved Operations Plan for this site.):

A. Types 1 and 2 feedstocks.

DEQ proposes to remove Sections 1.1, 1.3 and 1.4 in their entirety.

DEQ proposes to revise Section 3.3.1 to include language that mirrors Section 4.4 of the permit which requires a minimum temperature of 131 degrees Fahrenheit to be maintained for 3 days throughout the active pile to achieve adequate human pathogen reduction.

3.3 Pathogen reduction. The permittee must operate the compost facility in conformance with OAR 340-096-0140, Special Rules Pertaining to Composting: Pathogen Reduction, including the following:

1. Process parameters:

    a. Using the aerated static pile composting method, the temperature of the active composting piles must be maintained at 131 degrees Fahrenheit or higher for three consecutive days.
    b. The permittee must monitor temperature daily at locations that are representative of the active piles.
    c. The permittee must maintain sample results and must make the results available upon request.

DEQ proposes to remove Section 4.4 in its entirety.

DEQ proposes to add Section 9.17 which sets a timeline to reduce pile heights. Initially, the height must be reduced to 25 feet in accordance with current Oregon Fire Code. Ultimately, as recommended by GMT report, in order to achieve good aerated composting conditions, the height maximum will be further reduced to 14 feet. Lower pile heights are also likely to reduce offsite odor impacts and to mitigate fire hazards.

9.17 Material pile height reduction. The permittee must reduce and maintain all piles of yard debris feedstock, active compost, hog fuel and finished compost to a maximum height of 40 feet by December 31, 2018 and to a maximum height of 25 feet by April 30, 2019. The facility must submit a plan for DEQ approval to achieve a maximum pile height of 14 feet for active compost piles within 60 days of permit issuance. Once the plan is approved by DEQ, the permittee must reduce and maintain a pile height of 14 feet or less for active compost piles by June 30, 2020. The permittee is additionally required to meet all other applicable Oregon Fire Code requirements

DEQ proposes to add Section 9.18 to require a cover on the active compost pile. The use of a cover to mitigate odors is a standard practice at composting facilities and was employed with success at Grimm's to minimize odors after the Feb. 2018 turning event.

9.18 Cover for active compost piles. Within 60 days of permit issuance, the permittee must apply a cover, such as porous overs and composted material, on all active compost piles for at least the first 15 days of composting. The permittee must describe in its operation plan how it will adequately maintain the cover. During the transition from static pile to ASP, the permittee will top all active compost piles with bio-cover.

DEQ proposes to add Section 9.19 to require the operation of an enclosure and bio-filter system to capture and treat odors released during the screening and handling of compost. The screening process is a contributor to odors at the facility. A negative pressure enclosure and bio-filter system for the trommel screen and conveyance system will reduce odors released during screening.

9.19 Capture and treatment of odors from screening and transfer process. The permittee must maintain an enclosure of the screening and conveyance system to capture the odors from the processing equipment. Captured air will be directed to a properly sized bio-filter with an irrigation system that is maintained to provide optimum filtering capability.

DEQ proposes to add Section 9.20 to require the construction of an aerated system to provide continuous aeration for the active compost piles. Adequate aeration to all materials in the active compost pile will ensure that optimum degradation occurs.

9.20 Aerated System. The permittee must build and operate a continuous aeration system that provides adequate aeration to maintain a minimum oxygen level of 10% in the active compost pile by June 30, 2020. Exhaust from the aerated system will be directed through a bio-filter or bio-cover system to ensure that, to the greatest extent possible, odors that are likely to cause adverse impacts outside of the facility boundaries are minimized.

DEQ proposes to add Section 9.21 – Oxygen, temperature and moisture monitoring.

9.21 Process Controls. Monitor and record the following processing parameters referenced in OAR 340-096-0090(6) at the frequency and location described below. Permittee must ensure that parameters are within the range listed herein.

1) Prior to conversion to ASP system on June 30, 2020, the permittee must ensure that parameters are within the range listed herein:
   a) Oxygen level: Monitor at locations that are representative of the active piles weekly. Oxygen level within the active pile must be between 5% - 21% to ensure aerobic decomposition of feedstocks is occurring. Record of oxygen levels within the active piles shall be kept onsite and available to DEQ upon request.
   b) Temperature: Monitor at locations that are representative of the active piles weekly. Temperature within the active piles must maintain a temperature range between 120 F to 180 F. Record of temperature within the active pile shall be kept onsite and available to DEQ upon request.
   c) Moisture content: Monitor at locations that are representative of the active piles weekly. Moisture content within the active piles must be between 40% - 60% to ensure aerobic decomposition of feedstocks is occurring. Record of moisture content within the active piles shall be kept onsite and available to DEQ upon request.
   d) Retention time: Record active composting time for each compost batch. Record of compost times shall be kept onsite and available to DEQ upon request.

2) After conversion to ASP system on June 30, 2020, the permittee must ensure that parameters are within the range listed herein:
   a) Oxygen level: Monitor at locations that are representative of the active piles daily. Oxygen level within the active pile must be between 10% - 21% to ensure aerobic decomposition of feedstocks is occurring. Record of oxygen levels within the active piles shall be kept onsite and available to DEQ upon request.
   b) Temperature: Monitor at locations that are representative of the active piles daily. Temperature within the active piles must maintain a minimum temperature of 131 F for three days to achieve adequate human pathogen reduction. Record of temperature within the active pile shall be kept onsite and available to DEQ upon request.
   c) Moisture content: Monitor at locations that are representative of the active piles weekly. Moisture content within the active piles must be between 40% - 60% to ensure aerobic decomposition of feedstocks is occurring. Record of moisture content within the active piles shall be kept onsite and available to DEQ upon request.
   d) Retention time: Record active composting time for each compost batch. Record of compost times shall be kept onsite and available to DEQ upon request.

Public Involvement:

On January 21, 2019, DEQ issued a public notice requesting comment on the draft modification to DEQ solid waste composting permit for the Grimm's Fuel Company (Grimm's) composting facility. During a community meeting concerning Grimm's proposed permit modification that took place on January 23, 2019, a commenter brought to DEQ's attention that there were two errors in the proposed permit. DEQ corrected permit conditions 9.20 and 10.1 to align with permit condition 9.21 and require that Grimm's maintains a minimum oxygen level of 10% in the aeration system to be built.

DEQ posted the public notice, proposed permit and permit evaluation report to DEQ's Public Notice webpage and DEQ's Grimm's facility webpage. DEQ also mailed the public notice to 1,865 neighbors and interested citizens located within a mile of the Grimm's facility. DEQ placed an advertisement announcing the public notice and public hearing in the Oregonian and the Tigard Tualatin Times. DEQ held a public hearing on February 26, 2019 at the Juanita Pohl Center in Tualatin to receive verbal comments on the proposed modification to the DEQ solid waste permit for Grimm's Fuel. The public comment period closed at 5pm on March 4, 2019.

DEQ received six verbal comments during the public hearing and 53 written comments during the public comment period. DEQ summarized the comments received by topic, and drafted a response to each topic in the "Response to Comments" document that is appendix A to the issued Permit Modification.

Permit Changes Made After DEQ Review of Comments

1. **Section 9.21.2.c previously read: "**Moisture content: Monitor at locations that are representative of the active piles weekly."

   Section 9.21.2.c now reads: "Moisture content: For each batch of material, monitor at locations that are representative of the active pile 4 times during the active composting phase. Permittee to take a moisture content measurement during the construction of the ASP (Day 1 and Day 15) and again during the deconstruction or flipping of the pile (Day 15 and Day 30)."

   Rationale: DEQ proposes to revise the moisture monitoring conditions to allow for the ASP to be remain undisturbed during each 15-day compost period. It is best to add water to the pile during construction to ensure equal and consistent moisture within the pile.

Attachment A

RESPONSE TO COMMENTS TO PUBLIC NOTICE FOR THE DRAFT MODIFICATION TO SOLID WASTE PERMIT #1433 FOR GRIMM'S FUEL COMPANY COMPOSTING PERMIT

Public Comment Period:
January 21, 2019 to March 4, 2019

On January 21, 2019, DEQ issued a public notice requesting comment on the draft modification to DEQ solid waste composting permit for the Grimm's Fuel Company (Grimm's) composting facility. During a community meeting concerning Grimm's proposed permit modification that took place on January 23, 2019, a commenter brought to DEQ's attention that there were two errors in the proposed permit. DEQ corrected permit conditions 9.20 and 10.1 to align with permit condition 9.21 and require that Grimm's maintains a minimum oxygen level of 10% in the aeration system to be built.

DEQ posted the public notice, proposed permit and permit evaluation report to DEQ's Public Notice webpage and DEQ's Grimm's facility webpage. DEQ also mailed the public notice to 1,865 neighbors and interested citizens located within a mile of the Grimm's facility. DEQ placed an advertisement announcing the public notice and public hearing in the Oregonian and the Tigard Tualatin Times. DEQ held a public hearing on February 26, 2019 at the Juanita Pohl Center in Tualatin to receive verbal comments on the proposed modification to the DEQ solid waste permit for Grimm's Fuel. The public comment period closed at 5pm on March 4, 2019.

DEQ received six verbal comments during the public hearing and 53 written comments during the public comment period. DEQ summarized the comments received by topic, followed by DEQ's response. The transcript of the verbal comments received during the public hearing and the written comments received are included as an attachment to this document.

Odor

Comment: DEQ received multiple comments that Grimm's composting facility is emitting odors off-site that are offensive and impact people living near the facility. Commenters stated that odors emanating from Grimm's have caused them, at times, to not go outside in their yards and to keep their home's windows closed and that they can smell the odors on their clothes after being outside. DEQ received several comments requesting that Grimm's not be allowed to emit any odors past the boundary of the facility. Commenters requested that a quantifiable standard for odors be established and that a third-party evaluate odors in the neighborhoods surrounding Grimm's. (*Post, Feb 12, 2019; McGuire, Feb 22, 2019; Sloan, Feb 28, 2019; MacNeil, Mar 1, 2019; Stephens, Mar 2, 2019; Fountain, Mar 3, 2019; Berger, Mar 1. 2019; Khamis, Feb 25,*

2019; Saedi, Mar 4, 2019; ; Craker, Mar 3, 2019; Davis, Mar 1, 2019; Hamilton, Mar 1, 2019; Tarabochia, Mar 3, 2019; Klein, Mar 3, 2019; Hamilton, Mar 4, 2019; Weber, Mar 4, 2019; Canedo, Feb 28, 2019; Shaw, Mar 4, 2019; West, Feb 28, 2019; Brown, Mar 1, 2019; Kellogg, Feb 28, 2019; Kellogg, Feb 28, 2019; Knutson, Mar 3, 2019; Moore, Mar 3, 2019; Rocky B, Mar 3, 2019; Rayner, Mar 3, 2019)

DEQ Response: DEQ regulations identify a performance standard for composting operations regarding odors in OAR 340-096-0070(4). All composting facilities must be designed, constructed, and operated in a manner that, to the greatest extent practicable, consistent with proper facility design and operation, controls and minimizes odors that are likely to cause adverse impacts outside the boundaries of the facility. DEQ agrees with the Metro commissioned study of Grimm's composting operations that Grimm's needs to change its composting system to an aerobic composting operation and take additional measures to enclose conveyor systems and capture odors from its operations. DEQ agrees with the consultant's conclusions that if Grimm's takes these measures that Grimm's will reduce the quantity of odors and change the profile of odors emitted from Grimm's compost operations.

DEQ has proposed new permit conditions that will require Grimm's to add infrastructure equipment and change their composting practices to create a more aerobic composting process. DEQ expects these modifications to minimize the strength and intensity of the odor and to change the profile of the odor to an earthy, dirt smell.

New permit conditions will require installation of additional odor control equipment, such as the enclosure of the screening and conveyance area, engineered biofilters, and the covering of active compost piles, to further capture and treat odorous compounds.

DEQ recognizes that composting facilities may generate odors that escape the compost operation boundaries. The performance standard is to make sure that the compost operation is designed, constructed, and operated such that any offsite odors will be minimal in strength and intensity, indicating that effective composting is taking place.

DEQ will regularly inspect composting operations at Grimm's and evaluate the effectiveness of the additional permit requirements and whether they are sufficient to minimize odors. As necessary, DEQ will require facility improvements to address operational concerns and compliance issues.

Research indicates that establishing a quantifiable odor standard that can be implemented or enforced is very difficult, time consuming and may not address odor concerns. DEQ will evaluate whether the required actions that Grimm's takes to comply with DEQ's permit address the concerns about odors. DEQ does not plan to use third-party odor evaluations at this time.

Dust

Comment: DEQ received several comments regarding the deposition of dust from Grimm's onto neighboring properties. Commenters requested that Grimm's permit include a condition that does not allow dust to be carried beyond the Grimm's property. Commenters also requested that sampling equipment be installed offsite to measure and quantify offsite dust emissions. (*Saedi, Mar 4, 2019, Craker, Mar 3, 2019; Davis, Mar 1, 2019; Hamilton, Mar 1, 2019; Tarabochia, Mar 3, 2019; Klein, Mar 3, 2019; Hamilton, Mar 4, 2019; Weber, Mar 4, 2019; Canedo, Feb 28, 2019; Shaw, Mar 4, 2019; West, Feb 28, 2019; Brown, Mar 1, 2019; Kellogg, Feb 28, 2019; Kellogg, Feb 28, 2019; Knutson, Mar 3, 2019; Moore, Mar 3, 2019; Rocky B, Mar 3, 2019; Rayner, Mar 3, 2019)*

DEQ Response: DEQ has identified several processes that can generate significant dust, these include grinding, pile turning, screening and conveyance. DEQ has also identified conditions at Grimm's that can increase the generation of dust, such as pile height and insufficient moisture during the handling of material. DEQ has proposed several new permit conditions that will decrease the amount of dust generated by the facility.

A new permit condition requires the screen and conveyers in the central processing area to be enclosed and exhausted through a properly sized-biofilter. Lower pile heights will decrease the amount of material that is exposed to the wind, which DEQ expects will decrease the amount of dust carried off-site. Another added permit condition requires active compost piles to maintain a minimum 40% moisture content, which will work to correct over-dry conditions that perpetuate the generation of dust.

These requirements should ensure that dust from Grimm's does not impact neighbors. DEQ intends to evaluate how successful the proposed permit modifications and process improvements that Grimm's undertakes are at minimizing offsite dust.

General Air Quality Concerns

Comment: DEQ received multiple comments describing concerns that air emissions from Grimm's is negatively impacting the surrounding air quality. Some comments questioned why Grimm's isn't required to have an air quality permit and why they are not required to conduct routine air quality monitoring. DEQ has also received a petition from Grimm's neighbors that asked DEQ to evaluate whether Grimm's should be required to apply for a DEQ Air Quality permit based on projected VOC emissions. Commenters also requested that automated air quality sampling equipment be installed and operated continuously. (*Wilson, Feb 26, 2019; Hamilton, Feb 26, 2019; Johnston, Feb 12, 2019; Anderson, Mar 4, 2019; Michalczyk, Mar 4, 2019; Smith, Mar 3, 2019; Craker, Mar 3, 2019; Davis, Mar 1, 2019; Hamilton, Mar 1, 2019; Tarabochia, Mar 3, 2019; Klein, Mar 3, 2019; Hamilton, Mar 4, 2019; Weber, Mar 4, 2019; Canedo, Feb 28, 2019; Shaw, Mar 4, 2019; West, Feb 28, 2019; Brown, Mar 1, 2019; Kellogg,*

Feb 28, 2019; Kellogg, Feb 28, 2019; Knutson, Mar 3, 2019; Moore, Mar 3, 2019; Rocky B, Mar 3, 2019; Rayner, Mar 3, 2019)

DEQ Response: DEQ is currently issuing a modification to Grimm's Solid Waste Compost Permit which will not include air monitoring requirements. The DEQ Materials Management Program has referred all comments concerning the request for DEQ to issue an air quality permit and to conduct air quality monitoring to the DEQ Air Quality Program. The DEQ Air Quality Program is currently evaluating whether composting operations, as a business sector, require air quality permits. If DEQ's Air Quality Program concludes air permits are required, DEQ will propose a process to determine how to require compliance with applicable air quality requirements.

Health Concerns

Comment: DEQ received several comments from individuals stating that their health has been negatively impacted by off-site emissions from Grimm's. Commenters stated that the emissions from Grimm's facility makes them feel sick, causes their eyes and throat to hurt and exacerbates their asthma. Other commenters stated that they have concerns that Grimm's may potentially be impacting other individuals health, including students, and that a comprehensive air quality study be performed to determine which airborne contaminants are present in the air. (*Fountain, Mar 3, 2019; Courtney, Mar 3, 2019; Wyant, Mar 6, 2019; Smith, Mar 6, 2019; Saedi, Mar 4, 2019; Craker, Mar 3, 2019; Davis, Mar 1, 2019; Hamilton, Mar 1, 2019; Tarabochia, Mar 3, 2019; Klein, Mar 3, 2019; Hamilton, Mar 4, 2019; Weber, Mar 4, 2019; Canedo, Feb 28, 2019; Shaw, Mar 4, 2019; West, Feb 28, 2019; Brown, Mar 1, 2019; Kellogg, Feb 28, 2019; Kellogg, Feb 28, 2019; Knutson, Mar 3, 2019; Moore, Mar 3, 2019; Rocky B, Mar 3, 2019; Rayner, Mar 3, 2019)*

DEQ Response: DEQ has worked with the Oregon Health Authority (OHA) and Washington County Public Health to answer several of the health related questions and concerns voiced about Grimm's. This work has been documented in a Frequently Asked Questions document that can be found on DEQ's Grimm's Fuel Company webpage. This FAQ discusses what types of compounds are released from compost facilities and how these compounds can potentially effect an individual's health.

OHA is the public agency in Oregon that performs public health assessments. OHA would need scientific information about which specific components of compost emissions could cause health effects and in what quantities. OHA has no scientific basis to determine what specific substance DEQ should test for and no scientific basis to interpret any resulting environmental sampling data in terms of health significance. Therefore, neither OHA nor Washington County Public Health are asking DEQ to perform additional environmental sampling, and OHA is unable to conduct a public health assessment related to Grimm's Compost.

Water Impacts

Comment: DEQ received comments regarding concern that pollution from Grimm's facility is impacting nearby surface water and area ground water. A commenter requested that groundwater and stormwater leaving Grimm's property be tested monthly for herbicides, pesticides and all other potential contaminants. (*Nader. Mar 3, 2019; Craker, Mar 3, 2019; Davis, Mar 1, 2019; Hamilton, Mar 1, 2019; Tarabochia, Mar 3, 2019; Klein, Mar 3, 2019; Hamilton, Mar 4, 2019; Weber, Mar 4, 2019; Canedo, Feb 28, 2019; Shaw, Mar 4, 2019; West, Feb 28, 2019; Brown, Mar 1, 2019; Kellogg, Feb 28, 2019; Kellogg, Feb 28, 2019; Knutson, Mar 3, 2019; Moore, Mar 3, 2019; Rocky B, Mar 3, 2019; Rayner, Mar 3, 2019)*

DEQ Response: Grimm's maintains separation of the leachate (liquid produced during active composting) and stormwater at the site. Leachate is held on-site and applied back onto compost piles to provide moisture to the composting process. The facility has a stormwater treatment system that treats stormwater before it is discharged from the site. Grimm's operates under a National Pollutant Discharge Elimination System (NPDES) 1200-Z Stormwater Discharge Permit requiring stormwater samples at the point of discharge be collected four times per year to verify that facility operations are protective of receiving surface waters. Samples are analyzed for parameters such as total suspended solids, zinc, nitrate, chemical oxygen demand and phosphorous. Clean Water Services (CWS) acts as DEQ's agent in administering Grimm's water quality permit.

DEQ's Solid Waste program has referred the request for Grimm's to sample for herbicides and pesticides to DEQ's Water Quality program and CWS.

When DEQ conducted the environmental screening of potential risks from Grimm's, DEQ identified that there was insufficient information to evaluate whether ground water could potentially be impacted by Grimm's operations at the site. Grimm's operations area, including the active compost areas, is paved. The proposed aerated static pile system will include an impervious pad and leachate collection system. At this time, DEQ does not consider groundwater monitoring to be necessary.

Do Not Support Additional Regulation

Comment: DEQ received comments that reports of offensive odors from Grimm's facility are overstated. Commenters voiced concern that additional environmental oversight will cause a financial burden on Grimm's that may cause them to close the facility. Commenters said that Grimm's has operated at this location for a long period of time and that it has never caused them any issues or concerns. Several commenters stated Grimm's provides a good service to the area and they are afraid the community may lose this facility, which could lead to increased illegal dumping and cause homeowners to have to drive further and pay more for the service provided. (*Croucher, Feb 12, 2019; GrosJacques, Feb 17, 2019; Sanderson, Mar 1, 2019; McClure, Feb 23, 2019; Barry, Mar 3, 2019; Soles, Feb 15, 2019)*

DEQ Response: Comments of support are noted.

Limit on feedstock volume

Comment: DEQ received comments that Grimm's permit should contain an annual limit on the quantity of feedstock that the facility can receive. The quantity limit should be set in accordance with the facility's processing capability. (*Saedi, Mar 4, 2019; Craker, Mar 3, 2019; Davis, Mar 1, 2019; Hamilton, Mar 1, 2019; Tarabochia, Mar 3, 2019; Klein, Mar 3, 2019; Hamilton, Mar 4, 2019; Weber, Mar 4, 2019; Canedo, Feb 28, 2019; Shaw, Mar 4, 2019; West, Feb 28, 2019; Brown, Mar 1, 2019; Kellogg, Feb 28, 2019; Kellogg, Feb 28, 2019; Knutson, Mar 3, 2019; Moore, Mar 3, 2019; Rocky B, Mar 3, 2019; Rayner, Mar 3, 2019)*

DEQ response: DEQ Solid Waste facility permits do not contain limits on the quantity of feedstock that the facility can accept. However, DEQ must approve plans and specifications for the new aerated composting system. The design and construction of the new process as well as the height limits of compost piles and compliance with the DEQ permit conditions, will dictate the amount of material the facility can process, and therefore, receive.

Process Enclosures

Comment: DEQ received comments regarding the need for additional or improved enclosures at Grimm's facility. A commenter said that the current enclosure around the screen and conveyance system should be more professionally designed to ensure that odor and dust is not allowed beyond the facility property line. Several commenters stated that the entire composting operation should be contained within a building. Another comment suggested language be added to state that the enclosure should capture odors from the processing equipment *to the greatest extent possible* and pointed out that the enclosure system will have openings at both ends to receive and discharge material. (*Saedi, Mar 4, 2019; Craker, Mar 3, 2019; Davis, Mar 1, 2019; Hamilton, Mar 1, 2019; Tarabochia, Mar 3, 2019; Klein, Mar 3, 2019; Hamilton, Mar 4, 2019; Weber, Mar 4, 2019; Canedo, Feb 28, 2019; Shaw, Mar 4, 2019; West, Feb 28, 2019; Brown, Mar 1, 2019; Kellogg, Feb 28, 2019; Kellogg, Feb 28, 2019; Knutson, Mar 3, 2019; Moore, Mar 3, 2019; Rocky B, Mar 3, 2019; Rayner, Mar 3, 2019; Grimm, Mar 4, 2019)*

DEQ response: DEQ has approved the constructed enclosure of the trommel screen and conveyance system. Grimm's is required to maintain the enclosure to ensure that odors and dust from the processing equipment is captured and directed to a bio-filer. Periodic inspections by DEQ will ensure that the structure is meeting performance standards.

DEQ considers the requirement to install an aerated composting system adequate to reduce odors and dust. At this time, DEQ does not intend to require Grimm's to operate within an enclosed building.

Definition of Active Composting

Comment: DEQ received comments that the permit should define the difference between the active compost piles, curing compost piles and finished compost piles. Comments also requested that a stability test to be used to identify when material has completed the composting process. (*Craker, Mar 3, 2019; Davis, Mar 1, 2019; Hamilton, Mar 1, 2019; Tarabochia, Mar 3, 2019; Klein, Mar 3, 2019; Hamilton, Mar 4, 2019; Weber, Mar 4, 2019; Canedo, Feb 28, 2019; Shaw, Mar 4, 2019; West, Feb 28, 2019; Brown, Mar 1, 2019; Kellogg, Feb 28, 2019; Kellogg, Feb 28, 2019; Knutson, Mar 3, 2019; Moore, Mar 3, 2019; Rocky B, Mar 3, 2019; Rayner, Mar 3, 2019)*

DEQ response: DEQ is requiring Grimm's to submit for approval, definitions and criteria within their Operation Plan to determine when compost material is in the active phase, curing phase and finished phase. DEQ is recommending that a quantitative "maturity" test be used to assess when the material has finished the active composting phase. DEQ approves the operations plan as part of the permit and does not consider that additional permit conditions are needed at this time to address this concern.

Assessment of Infrastructure and Process Changes

Comment: DEQ received comments that a comprehensive impact study be performed after the required process and infrastructure changes to a more aerobic system have been completed. (*Craker, Mar 3, 2019; Davis, Mar 1, 2019; Hamilton, Mar 1, 2019; Tarabochia, Mar 3, 2019; Klein, Mar 3, 2019; Hamilton, Mar 4, 2019; Weber, Mar 4, 2019; Canedo, Feb 28, 2019; Shaw, Mar 4, 2019; West, Feb 28, 2019; Brown, Mar 1, 2019; Kellogg, Feb 28, 2019; Kellogg, Feb 28, 2019; Knutson, Mar 3, 2019; Moore, Mar 3, 2019; Rocky B, Mar 3, 2019; Rayner, Mar 3, 2019)*

DEQ response: DEQ will be performing periodic unannounced compliance inspections at Grimm's to ensure that the infrastructure additions and changes to composting processes are operating as designed. DEQ will assess whether these changes are adequate to meet performance standards.

Parameter Sampling Verification – 3rd Party

Comment: DEQ received comments requesting that DEQ perform verification sampling to confirm that Grimm's is performing the required sampling. Additionally, DEQ received comments that all environmental testing should be performed by an impartial 3rd party. (*Craker, Mar 3, 2019; Davis, Mar 1, 2019; Hamilton, Mar 1, 2019; Tarabochia, Mar 3, 2019; Klein, Mar 3, 2019; Hamilton, Mar 4, 2019; Weber, Mar 4, 2019; Canedo, Feb 28, 2019; Shaw, Mar 4, 2019; West, Feb 28, 2019; Brown, Mar 1, 2019; Kellogg, Feb 28, 2019; Kellogg, Feb 28, 2019; Knutson, Mar 3, 2019; Moore, Mar 3, 2019; Rocky B, Mar 3, 2019; Rayner, Mar 3, 2019)*

DEQ response: DEQ is evaluating how to conduct process parameter sampling verification at permitted compost facilities when conducting inspections. DEQ envisions purchasing and using hand-held monitoring equipment to sample for oxygen, temperature and moisture content during compliance inspections. DEQ does not plan to use a third party to verify parameter sampling at this time.

Monitor and Record Blower Data

Comment: DEQ received comments requesting that Grimm's monitor and record air blower speeds and pressure drops to ensure performance of the compost aeration system. (*Craker, Mar 3, 2019; Davis, Mar 1, 2019; Hamilton, Mar 1, 2019; Tarabochia, Mar 3, 2019; Klein, Mar 3, 2019; Hamilton, Mar 4, 2019; Weber, Mar 4, 2019; Canedo, Feb 28, 2019; Shaw, Mar 4, 2019; West, Feb 28, 2019; Brown, Mar 1, 2019; Kellogg, Feb 28, 2019; Kellogg, Feb 28, 2019; Knutson, Mar 3, 2019; Moore, Mar 3, 2019; Rocky B, Mar 3, 2019; Rayner, Mar 3, 2019)*

DEQ response: The proposed permit requires that the temperature and oxygen content of the piles be directly measured at representative locations. DEQ expects this practice will adequately indicate if aerobic composting conditions are present within the piles.

Citizen Involvement

Comment: DEQ received comments requesting that citizen representatives be included in all meetings between DEQ and Grimm's. DEQ also received requests that request no last-minute changes be made to the proposed DEQ permit without informing the citizen representatives as to the substance of such changes prior to issuance. (*Craker, Mar 3, 2019; Davis, Mar 1, 2019; Hamilton, Mar 1, 2019; Tarabochia, Mar 3, 2019; Klein, Mar 3, 2019; Hamilton, Mar 4, 2019; Weber, Mar 4, 2019; Canedo, Feb 28, 2019; Shaw, Mar 4, 2019; West, Feb 28, 2019; Brown, Mar 1, 2019; Kellogg, Feb 28, 2019; Kellogg, Feb 28, 2019; Knutson, Mar 3, 2019; Moore, Mar 3, 2019; Rocky B, Mar 3, 2019; Rayner, Mar 3, 2019*

DEQ response: DEQ will continue to communicate with concerned citizens and local environmental groups to meet and discuss concerns regarding Grimm's facility; however, DEQ does not intend to invite citizens to meetings between Grimm's and DEQ. DEQ will follow the prescribed process of public involvement in the Solid Waste permitting process.

Cover for Active Compost Piles

Comment: DEQ received a comment from the facility that placing a cover on the active compost pile during the transition from static pile to ASP is not possible. The facility has to clear over 30% of the current composting area to make room for the new ASP area at the northern edge of the pile. This reduction of static area will result in daily pushing greenwaste

over the top of Cell 1. Cell 2 will be filled daily with no time to cover. The current ASP bins will use a bio-cover of finished compost as required. (*Grimm, Mar 4, 2019)*

DEQ response: DEQ recognizes that during the transition phase, the active piles will be moved frequently. DEQ expects Grimm's to provide an Operations Plan update to describe the management of the piles with bio-cover.

Process Parameter Monitoring

Comment: DEQ received a comment from the facility regarding the proposed schedule for testing the oxygen content and moisture content of the ASP. The commenter states that daily testing of oxygen content is unnecessary after the temperature-controlled aeration system is commissioned. Commenter is proposing that after the ASP system is calibrated, temperature alone can be used to assess the aerobic status of the ASP. Daily oxygen measurements during start-up will show that the oxygen content remains fairly static and can be reliably predicted by the continuous temperature monitoring of the pile. Commenter also stated that weekly moisture sampling is unnecessary and difficult to perform. Commenter proposes that representative sampling during the construction of the ASP and during the removal or flipping of the material 15 days later (2 sample events in just over two weeks) is sufficient to demonstrate the material stays between the required range of 40%-60% moisture. (Grimm, Mar 4, 2019).

DEQ response: DEQ proposes to keep the oxygen monitoring conditions unchanged. If after initial start-up period of the ASP system, Grimm's desires to reduce oxygen monitoring, then DEQ recommends that Grimm's propose a pilot study for DEQ's review and approval to demonstrate the temperature alone can be used to show that the ASP systems maintains aerobic conditions with greater than 10% oxygen. During the pilot, Grimm's would need to continue monitoring oxygen. Any change based on a pilot would require public notice and public comment.

DEQ proposes to revise the moisture monitoring conditions to allow for the ASP to be remain undisturbed during each 15-day compost period. DEQ will change Permit Condition 9.21.2.c to require moisture monitoring during the construction of the ASP (Day 1 and Day 15) and again during the deconstruction or flipping of the pile (Day 15 and Day 30). The change will require the moisture content to be sampled 4 times in a month.

Permit Changes Made After DEQ Review of Comments

1. **Section 9.21.2.c previously read: "**Moisture content: Monitor at locations that are representative of the active piles weekly."

   Section 9.21.2.c now reads: "Moisture content: For each batch of material, monitor at locations that are representative of the active pile 4 times during the active composting phase.

Permittee to take a moisture content measurement during the construction of the ASP (Day 1 and Day 15) and again during the deconstruction or flipping of the pile (Day 15 and Day 30)."

Rationale: DEQ proposes to revise the moisture monitoring conditions to allow for the ASP to be remain undisturbed during each 15-day compost period. It is best to add water to the pile during construction to ensure equal and consistent moisture within the pile.